**NATCARB_OilGas (v1403)**

FGDC Metadata

Show Definitions

Description | Spatial | Data Structure | Data Quality | Data Source | Data Distribution | Metadata

**Citation**

**Title:** NATCARB_OilGas (v1403)

**Originators:** NATCARB Map Team, US Dept. of Energy (DOE) National Energy Technology Laboratory (NETL)

**Publication date:** 20131001

**Edition:** v1403

**Data type:** vector digital data

**Other citation details:** http://www.netl.doe.gov/technologies/carbon_seq/natcarb

**Description**

**Abstract:** The National Carbon Sequestration Database and Geographic Information System (NATCARB) Oil and Gas spatial database is a small-scale (large-area) overview of carbon dioxide (CO2) geologic storage potential in oil and/or gas fields across the USA and parts of Canada. Storage estimates are quantified by the volume of oil and gas that has, or could be, produced, assuming that it could be replaced by an equivalent volume of carbon dioxide. Only oil and/or gas reservoirs containing water with total dissolved solids (TDS) greater than 10,000 ppm merited evaluation for potential CO2 storage. Storage resources labelled as "OIL" may represent oil-only fields, or combined oil and gas fields. Storage resources labelled as "GAS" represent gas-only fields. This data layer reflects the best available knowledge regarding the location of carbon sequestration potential in the USA and Canada, both onshore and offshore.

**Version Log:**

v1101 - Initial release for Atlas III;
v1103 - Metadata revised;
v1104 - No changes to Oil and Gas layer;
v1204 - Initial release for Atlas IV. New data submitted by all regional partnerships; v1302 - No changes to Oil and Gas layer. Metadata revised.
v1303 - No changes to Oil and Gas layer. Metadata revised.
v1403 - Initial release for Atlas V. New data submitted by BSCSP, MGSC, MRCSP, PCOR, SECARB and parts of SWP. Missing Medium volumes calculated as natural log mean of Low and High volumes.

**Purpose:** This dataset provides a single, seamless spatial database of carbon storage potentials for oil and gas reservoirs across the USA and Canada compiled from regional datasets created by RCSPs and the KGS. Storage resource estimates are based on physically accessible CO2 storage pore volume within subsurface geologic formations, and on the assumption that the storage resources are open systems in which in situ fluids will either be displaced from the injection zone or managed accordingly. Economic and regulatory constraints are not considered. These data are intended to be used as an initial assessment of potential geologic storage and are not a substitute for site-specific assessment, testing, and geologic investigation. This spatial data layer provides carbon capture and storage (CCS) project developers a starting point for further inquiry into CCS technologies aimed at reducing CO2 emissions and is intended for use by RCSPs, project developers, and governmental entities for regional- and national-scale assessments of potential CO2 storage resources in the United States and parts of Canada.

**Supplemental information:** For a detailed methodology of storage resource estimates refer to Appendix B of The United States 2014 Carbon Utilization and Storage Atlas - Fifth Edition (Atlas V). For data access please contact the US DOE-NETL NATCARB Map Team - NatCarb.Maps@netl.doe.gov For questions regarding how the data were assembled, contact the KGS NATCARB Team - natcarb@kgs.ku.edu

**Dataset credit:** Version 1403 (third quarter release of 2014) of the NATCARB Saline spatial database was created by the NATCARB Team at the Kansas Geological Survey (KGS). The following Regional Carbon Sequestration Partnerships (RCSP) contributed data to the national dataset:

Big Sky Carbon Sequestration Partnership (BSCSP);
Midwest Geological Sequestration Consortium (MGSC);
Midwest Regional Carbon Sequestration Partnership (MRCSP);
Plains CO2 Reduction Partnership (PCOR);
Southeast Regional Carbon Sequestration Partnership (SECARB);
Southwest Regional Partnership on Carbon Sequestration (SWP);
West Coast Regional Carbon Sequestration Partnership (WESTCARB).
Several site characterization project teams also contributed data through the RCSPs to be included in the national dataset:
Black Warrior Basin - University of Alabama;
Cambro-Ordovician Strata of the Illinois and Michigan Basins - University of Illinois;
Gulf of Mexico Miocene - University of Texas;
Triassic Newark Basin of New York and New Jersey - Sandia Technologies;
Ozark Plateau Study Area - University of Kansas;
Rocky Mountain Region - University of Utah;
South Georgia Rift Basin - South Carolina Research Institution;
Two Elk Energy Park - North American Power Group;
Wilmington Graben, Offshore Los Angeles - Terralog Technologies USA;
Wyoming - University of Wyoming.

Point Of Contact

Organization: NATCARB Map Team, US Dept. of Energy (DOE) National Energy Technology Laboratory (NETL)
Phone: 304-285-2006
Phone: 304-285-1354
Email: NatCarb.Maps@netl.doe.gov
Address type: mailing and physical
    Address: 3610 Collins Ferry Road M/S F04
    City: Morgantown
    State or Province: West Virginia
    Postal code: 26507
    County: US

Data Type

Data type: vector digital data
Native dataset environment: Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri ArcGIS 10.2.2.3552

Status

Data status: Complete
Update frequency: Quarterly

Key Words

Theme:
    Keywords: US Department of Energy, Energy, Carbon Sequestration, NATCARB, Saline
    Keyword thesaurus: None

Theme:
    Keywords: climatologyMeteorologyAtmosphere, environment, geoscientificInformation
    Keyword thesaurus: ISO 19115 Topic Categories

Place:
    Keywords: Canada, USA, North America
    Keyword thesaurus: ISO 19115 Topic Category

Stratum:
    Keyword thesaurus: ISO 19115 Topic Category

Data Access Constraints
**Spatial Reference Information**

**Horizontal Coordinate System**

**Coordinate System Details**

**Map projection**

- **Map projection name**: Lambert Azimuthal Equal-area
- **Longitude of projection center**: -100.0
- **Latitude of projection center**: 45.0
- **False easting**: 0.0
- **False northing**: 0.0

**Planar Coordinate Information**

- **Planar coordinate encoding method**: coordinate pair
- **Coordinate representation**:
  - **Abscissa resolution**: 0.0001
  - **Ordinate resolution**: 0.0001
- **Planar distance units**: meter

**Geodetic model**

- **Horizontal datum name**: D WGS 1984
- **Ellipsoid name**: WGS 1984
- **Semi-major axis**: 6378137.0
- **Denominator of flattening ratio**: 298.257223563

**Spatial Domain**

**Bounding Coordinates**

**In Unprojected coordinates (geographic)**

<table>
<thead>
<tr>
<th>Boundary</th>
<th>Coordinate</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>-172.598993 (latitude)</td>
</tr>
<tr>
<td>East</td>
<td>-36.003643 (latitude)</td>
</tr>
<tr>
<td>North</td>
<td>80.133277 (longitude)</td>
</tr>
<tr>
<td>South</td>
<td>22.473683 (longitude)</td>
</tr>
</tbody>
</table>

**Data Structure and Attribute Information**

**Overview**

**Direct spatial reference method**: Vector

**Attributes of NATCARB_OilGas_v1403**

**Description**: Vector polygon features representing oil and gas storage resources in the USA and Canada

**Source**: NATCARB

**Attributes**

- **OBJECTID**
  - **Definition**: Internal feature number.
**Attribute values**: Sequential unique whole numbers that are automatically generated.

**Attribute definition source**: ESRI

**SHAPE**

**Definition**: Feature geometry.

**Attribute values**: Coordinates defining the features.

**Attribute definition source**: ESRI

**PARTNERSHIP**

**Definition**: Abbreviation for RCSP.

**Attribute domain values**

<table>
<thead>
<tr>
<th>Value</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWP</td>
<td>Southwest Regional Partnership on Carbon Sequestration</td>
</tr>
<tr>
<td>PCOR</td>
<td>The Plains CO2 Reduction Partnership</td>
</tr>
<tr>
<td>BSCSP</td>
<td>Big Sky Sequestration Partnership</td>
</tr>
<tr>
<td>MRCSP</td>
<td>Midwest Regional Carbon Sequestration Partnership</td>
</tr>
<tr>
<td>SECARB</td>
<td>Southeast Regional Carbon Sequestration Partnership</td>
</tr>
<tr>
<td>WESTCARB</td>
<td>West Coast Regional Carbon Sequestration Partnership</td>
</tr>
<tr>
<td>MGSC</td>
<td>Midwest Geological Sequestration Consortium</td>
</tr>
</tbody>
</table>

**Attribute definition source**: Atlas IV

**FIELD_NAME**

**Definition**: Name of oil/gas field

**TOTAL_FIELD_AREA**

**Definition**: Area (square meters) of entire oil/gas field

**Attribute domain range**

<table>
<thead>
<tr>
<th>Range</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
<tr>
<td>Attribute units of measurement</td>
<td>square meters</td>
</tr>
</tbody>
</table>

**FIELD_TYPE**

**Definition**: Type of reservoir

**Attribute domain values**

<table>
<thead>
<tr>
<th>Value</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>OIL</td>
<td>Oil only reservoir</td>
</tr>
<tr>
<td>GAS</td>
<td>Gas only reservoir</td>
</tr>
<tr>
<td>OIL &amp; GAS</td>
<td>Oil and gas reservoir</td>
</tr>
<tr>
<td>UNDETERMINED</td>
<td>Field type unknown</td>
</tr>
</tbody>
</table>

**Attribute definition source**: DOE-NETL

**RESERVOIR_NUM**

**Definition**: Number of reservoirs within field.

**RESERVOIR_NAME**

**Definition**: Name of reservoir within field

**STATE_SRC**
**VOL_LOW**

**Definition:** Low (P10) estimate of carbon storage potential in metric tonnes.

**Attribute domain range**

<table>
<thead>
<tr>
<th>Range</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
<tr>
<td>Attribute units of measurement</td>
<td>metric tonnes</td>
</tr>
</tbody>
</table>

**Attribute definition source:** Atlas IV

**VOL_MED**

**Definition:** Medium (P50) estimate of carbon storage potential in metric tonnes.

**Attribute domain range**

<table>
<thead>
<tr>
<th>Range</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
<tr>
<td>Attribute units of measurement</td>
<td>metric tonnes</td>
</tr>
</tbody>
</table>

**Attribute definition source:** Atlas IV

**VOL_HIGH**

**Definition:** High (P90) estimate of carbon storage potential in metric tonnes.

**Attribute domain range**

<table>
<thead>
<tr>
<th>Range</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
<tr>
<td>Attribute units of measurement</td>
<td>metric tonnes</td>
</tr>
</tbody>
</table>

**Attribute definition source:** Atlas IV

**DEPTH_FT**

**Definition:** Mean depth (feet) of storage resource

**Attribute domain range**

<table>
<thead>
<tr>
<th>Range</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
<tr>
<td>Attribute units of measurement</td>
<td>Feet</td>
</tr>
<tr>
<td>Attribute measurement resolution</td>
<td>whole number</td>
</tr>
</tbody>
</table>

**Attribute definition source:** Atlas IV

**THICKNESS_FT**

**Definition:** Mean thickness (feet) of storage resource

**Attribute domain range**

<table>
<thead>
<tr>
<th>Range</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
<tr>
<td>Attribute units of measurement</td>
<td>Feet</td>
</tr>
<tr>
<td>Attribute measurement resolution</td>
<td>whole number</td>
</tr>
</tbody>
</table>

**Attribute definition source:** Atlas IV

**SALINITY_TDS**

**Definition:** Mean salinity (total dissolved solids) of storage resource

**Attribute domain range**
Range | Value
------|------
Minimum | 0
Attribute units of measurement | ppm
Attribute measurement resolution | whole number

**Attribute definition source:** Atlas IV

**PRESSURE_PSI**

**Definition:** Mean pressure (pounds per square inch) of storage formation

**Attribute domain range**

<table>
<thead>
<tr>
<th>Range</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
<tr>
<td>Attribute units of measurement</td>
<td>PSI</td>
</tr>
<tr>
<td>Attribute measurement resolution</td>
<td>whole number</td>
</tr>
</tbody>
</table>

**Attribute definition source:** Atlas IV

**TEMPERATURE_F**

**Definition:** Mean temperature (degrees F) of storage resource

**Attribute domain range**

<table>
<thead>
<tr>
<th>Range</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
<tr>
<td>Attribute units of measurement</td>
<td>degrees F</td>
</tr>
<tr>
<td>Attribute measurement resolution</td>
<td>whole number</td>
</tr>
</tbody>
</table>

**Attribute definition source:** Atlas IV

**POROSITY_PCT**

**Definition:** Mean porosity (percent) of storage resource

**Attribute domain range**

<table>
<thead>
<tr>
<th>Range</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>0</td>
</tr>
<tr>
<td>Maximum</td>
<td>100</td>
</tr>
<tr>
<td>Attribute units of measurement</td>
<td>percent</td>
</tr>
</tbody>
</table>

**Attribute definition source:** Atlas IV

**PERMEABILITY_mD**

**Definition:** Mean permeability (millidarcies) of storage resource

**Attribute domain range**

<table>
<thead>
<tr>
<th>Range</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>0.0001</td>
</tr>
<tr>
<td>Attribute units of measurement</td>
<td>mD</td>
</tr>
</tbody>
</table>

**Attribute definition source:** Atlas IV

**ASSESSED**

**Definition:** Flag defining whether storage resource has been assessed for carbon storage potential

**Attribute domain values**

<table>
<thead>
<tr>
<th>Value</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Storage resource has not been assessed. Capacities must be &lt;Null&gt;.</td>
</tr>
</tbody>
</table>
Storage resource has been assessed. Capacities may be "0".

**Attribute definition source:** DOE-NETL/KGS

### CYCLE_OF_LAST_UPDATE

### OVERLAP

### DUPLICATE

### MED_CALCED

**Definition:** Flag indicating how medium volume has been determined.

<table>
<thead>
<tr>
<th>Value</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Medium volume provided by regional partnership or site characterization project</td>
</tr>
<tr>
<td>1</td>
<td>Medium volume calculated by KGS NATCARB Team as natural log mean of Low and High volumes</td>
</tr>
</tbody>
</table>

### SHAPE_Length

**Definition:** Length of feature in internal units.

**Attribute values:** Positive real numbers that are automatically generated.

**Attribute definition source:** ESRI

### SHAPE_Area

**Definition:** Area of feature in internal units squared.

**Attribute values:** Positive real numbers that are automatically generated.

**Attribute definition source:** ESRI

### SDTS Feature Description

**Spatial data transfer standard (SDTS) terms**

**Feature class**

**Type:** GT-polygon composed of chains

**Count:** 68950

### Data Quality and Accuracy Information

#### General

**Logical consistency report:** All RCSPs provided carbon storage data in accordance with common standards developed by the RCSPs and the NATCARB project teams. (See Sources for more information on methodologies). Discrepancies and overlaps occur at the boundaries of some adjacent partnerships and DOE-NETL is the final authority on the handling of these issues (see data fields OVERLAP and DUPLICATE in Entity Attributes section of this document for details).

**Completeness report:** This dataset reflects the best available knowledge regarding the location of potential carbon sequestration potential in the USA and Canada, both onshore and offshore. However, not all areas of the United States and Canada have been assessed (e.g., offshore New England). Not all RCSPs provided data for all attribute fields in the database (indicated by <Null>). Values of "0" represent actual measurements. Not all RCSPs provided low (VOL_LOW), medium (VOL_MED) and high (VOL_HIGH) estimates of carbon storage capacity. In cases where only medium estimates (VOL_MED) were provided, the medium capacities were copied into the VOL_LOW and VOL_HIGH attribute fields. If the RCSP provided low and high estimates of capacity but not medium, the VOL_MED was calculated as the natural log mean of VOL_LOW and VOL_HIGH.

#### Attribute Accuracy
**Attribute accuracy report:** Questions regarding accuracy of the data (spatial and attribute) should be directed to the individual RCSPs. Except for certain cases of inter-partnership overlap, NATCARB did not make any changes to the data except for corrections to values in text fields (spelling, capitalization, etc.) when errors were noticed.

### Data Source and Process Information

#### Data Sources

**Data source information**

**WESTCARB**

- **Title:** WESTCARB Carbon Sequestration Potential
- **Originators:** West Coast Regional Carbon Sequestration Partnership
  California Energy Commission
- **Data type:** vector digital data
- **Media:** None

**Source contribution:** West Coast Regional Carbon Sequestration Partnership provided data for the Western United States and Canada (Alaska, Western Arizona, Western British Columbia, California, Hawaii, Nevada, Western Oregon and Western Washington).

**BSCSP**

- **Title:** BSCSP Carbon Sequestration Potential
- **Originators:** Big Sky Sequestration Partnership
  Montana State University
- **Data type:** vector digital data
- **Media:** None

**Source contribution:** Big Sky Carbon Sequestration Partnership provided data for the Innermountain West region of the Northwestern United States (Idaho, Eastern Montana, Eastern Oregon, Western South Dakota, Eastern Washington and Wyoming).

**DOE-NETL**

- **Title:** US Department of Energy (DOE) National Energy Technology Laboratory (NETL) NATCARB Team
- **Media:** None

**Source contribution:** As the responsible authority for the National Carbon Sequestration Database and Geographic Information System (NATCARB), the US Department of Energy (DOE) National Energy Technology Laboratory (NETL) NATCARB Team provided data, methodological guidance and expertise in handling issues specific to creation of the composite NATCARB data layers.

**SWP**

- **Title:** SWP Carbon Sequestration Potential
- **Originators:** New Mexico Institute of Mining and Technology
  Southwest Regional Partnership on Carbon Sequestration
- **Data type:** vector digital data
- **Media:** None

**Source contribution:** Southwest Regional Partnership on Carbon Sequestration provided data for the Southwestern United States (Eastern Arizona, Colorado, Kansas, New Mexico, Western Texas and Utah).
**Atlas IV**

**Title:** The United States 2012 Carbon Utilization and Storage Atlas  
**Publisher:** US Department of Energy (DOE) National Energy Technology Laboratory (NETL)  
**Publication place:** 3610 Collins Ferry Road, Morgantown, WV, 26507-0880, US  
**Publication date:** 20121219  
**Edition:** Fourth  
**Data location:** [http://www.netl.doe.gov/technologies/carbon_seq/refshelf/atlasIV/](http://www.netl.doe.gov/technologies/carbon_seq/refshelf/atlasIV/)  
**Media:** onLine  

**Source contribution:** The United States 2014 Carbon Utilization and Storage Atlas - Fifth Edition (Atlas V) provides updated information regarding carbon dioxide storage potential in the US and Canada and includes maps, summary tables and, in Appendices A and B, detailed methodologies.

**KGS**

**Title:** Kansas Geological Survey (KGS) NATCARB  
**Media:** None  

**Source contribution:** As the primary entity responsible for compiling the NATCARB layers, the Kansas Geological Survey NATCARB Team worked closely with the DOE-NETL NATCARB Team to develop rules and methods for assembling the composite datasets.

**PCOR**

**Title:** PCOR Carbon Sequestration Potential  
**Originators:** University of North Dakota, Energy and Environmental Research Center  
The Plains CO2 Reduction Partnership  
**Data type:** vector digital data  
**Media:** None  

**Source contribution:** The Plains CO2 Reduction Partnership provided data for the upper Midwest and Central Canada (Iowa, Minnesota, Missouri, Eastern Montana, Nebraska, North Dakota, Eastern South Dakota, Wisconsin, Eastern Wyoming, Alberta, Northeastern British Columbia, Manitoba and Saskatchewan).

**MRCSP**

**Title:** MRCSP Carbon Sequestration Potential  
**Originators:** Midwest Regional Carbon Sequestration Partnership  
Batelle Memorial Institute  
**Data type:** vector digital data  
**Media:** None  

**Source contribution:** Midwest Regional Carbon Sequestration Partnership provided data for the Ohio Valley and Northeastern United States (Eastern Indiana, Eastern Kentucky, Maryland, Michigan, New Jersey, New York, Ohio, Pennsylvania and West Virginia).

**MGSC**

**Title:** MGSC Carbon Sequestration Potential  
**Originators:** Midwest Geological Sequestration Consortium  
Illinois State Geological Survey  
**Data type:** vector digital data  
**Media:** None  

**Source contribution:** Midwest Geological Sequestration Consortium provided data for Illinois, Western Indiana and Western Kentucky.
Title: SECARB Sequestration Potential
Originators: Southeast Regional Carbon Sequestration Partnership
Southern States Energy Board
Data type: vector digital data
Media: None
Source contribution: Southeast Regional Carbon Sequestration Partnership provided data for the Southeastern United States (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Eastern Texas, West Virginia and Virginia).

### Process Steps

#### Process step information

**Process Step 1**

**Process description:** The NATCARB Group at the Kansas Geological Survey assembled GIS datasets from the regional partnerships (and other sources where necessary) into a single layer using ESRI's ArcInfo (v10.2.2) software in the Summer and Fall of 2014. All partnerships provided data in 10 km by 10 km vector "cells" and simple polygon outlines of resource boundaries. Not all partnerships provided low, medium and high capacity estimates. Where only medium capacities were provided, KGS made the low and high capacity fields (VOL_LOW and VOL_HIGH, respectively) equal to the medium capacity (VOL_MED). Where only low and high estimates were provided, medium values were calculated as the natural log mean of the low and high volumes. Other alterations to the data include identifying overlapping and duplicate data submitted by adjacent partnerships and making corrections to values in text fields (spelling, capitalization, etc.) when errors were noticed.

**Organization:** GIS Support Section, Kansas Geological Survey
**Position:** NatCarb Team
**Phone:** 785-864-3965
**Email:** natcarb@kgs.ku.edu
**Hours of service:** 8 am - 5 pm M-F
**Address type:** mailing and physical
  - **Address:** 1930 Constant Ave
  - **City:** Lawrence
  - **State or Province:** KS
  - **Postal code:** 66047-3726
  - **County:** US
**Process date:** 20141013

**Process Step 2**

**Process description:** Metadata updated.
**Organization:** GIS Support Section, Kansas Geological Survey
**Position:** NATCARB Team
**Process date:** 20141015

### Data Distribution Information

#### General

**Distribution liability:** See access and use constraints information.

#### Distribution Point of Contact

**Organization:** NATCARB Map Team, US Department of Energy (DOE) National Energy Technology Laboratory
**Standard Order Process**

**Digital form:**
- **Format name:** ESRI File Geodatabase
- **Format version number:** 10.2.2
- **File decompression technique:** zip
- **Digital transfer option:**
  - **Computer information:**
    - **Network address:**
      - **Network resource name:** http://www.netl.doe.gov/technologies/carbon_seq/natcarb/download.html

**Fees:** None

**Ordering instructions:** GIS datasets in ESRI file geodatabase format are available online. Please contact NATCARB Map Team for custom requests.

---

**Metadata Reference**

**Metadata Date**

**Last updated:** 20141016

**Metadata Point of Contact**

**Organization:** GIS Support Section, Kansas Geological Survey

**Position:** NATCARB Team

**Phone:** 785-864-3965

**Email:** natcarb@kgs.ku.edu

**Hours of service:** 8 am - 5 pm M-F

**Address type:** mailing and physical
- **Address:** 1930 Constant Ave
- **City:** Lawrence
- **State or Province:** Kansas
- **Postal code:** 66047-3726
- **County:** US

**Metadata Standards**

**Standard name:** FGDC Content Standard for Digital Geospatial Metadata

**Standard version:** FGDC-STD-001-1998

**Time convention:** local time